

Appl. No. 10/759,527
Amdt. Dated: September 20, 2006
Reply to Office Action of: May 24, 2006

Amendments to the Drawings

Please replace the drawing sheets containing Figures 11, 12, and 16 currently on file and replace with the new Figures 11, 12, and 16 submitted herewith.

REMARKS

In response to the Office Action dated May 24, 2006, the Applicants submit herewith amendments that are believed to place the application in order for allowance.

Amendments have been made to the drawings by adding reference numbers 10c in Figure 11 and reference numeral 44 in Figure 12. The other inconsistencies noted by the Examiner with respect to the drawings have been amended in the specification.

With respect to the reference character 14d, it is believed that it is appropriate to use reference number 14d to indicate the longitudinal strut 14d. The reference numeral 40d refers to the unit struts that together make up the entire strut 14d. A generic arrow head has been added to the one reference numeral to make it clear that it refers to the corresponding structure in the adjacent strut.

With respect to the disclosure of hinge points being provided with zones of relative weakness along the links, it is respectfully submitted that the specification as filed does in fact contain such a disclosure. In particular, at page 5, lines 9 through 13 it is stated that "by virtue of the relatively narrow links, the hinging action at their junction to the larger links 18, 22 exceeds the yield point of the material and causes a permanent deformation and an increase in diameter. A pair of spaced hinge points is established and thus the total rotation required between the axial links 20 and the circumferential link 28 is distributed between the two locations." This clearly is the disclosure of hinge points being provided at a specific location where one of the links is relatively weak compared with the other link. Quite clearly, since one of the links is "relatively narrow," there is a reduced cross section that defines the hinge point. Similar discussion of the hinge in effect may be found, for example, at page 5 lines 26 through 29 and at page 6, lines 17 through 19 where it specifies that the provision of the relatively narrow links enables control of the radial force and the location at which the bending will occur. As such, it is believed that the specification properly supports the subject matter claimed.

The specification has been amended at page 7, line 22 to refer to the strut 14c rather than 134 and at page 9, line 18 to refer to the unitary struts 40d rather than the unitary linkages. It is believed that this clarifies the use of the numerals 14d and 40d, it being noted that the strut 42 is a generic designation of the strut with the individual components that make up such a strut being the unitary struts 40d. Page 10, line 4 has been amended to refer to the nodes 32e.

Claim 1 has been amended to correct a typographical error in the third line so as to read solely by a set of linkages. In the final line of claim 1, the word "deformable" has been inserted before zones to further identify the feature as described in the specification.

The Examiner has rejected to claims 1 and 2 on file in view of the combination of the Israel reference and the Orth reference. The Examiner acknowledges that Israel does not disclose the hinge points provided by zones of relative weakness along the links. He refers to the Orth reference and in particular, the notches 21 to suggest it would be obvious to modify Israel to provide zones of relative weakness.

Firstly, it is noted that the Orth reference shows notches provided in the struts that separate the linkages. The effect of such notches is to permit a folding action in those struts as shown in Figure 2. The effect of such folding of the struts is two fold, namely to foreshorten the stent and also to provide a barb that extends radially outwardly from the body of the stent.

It will be noted that one of the requirements of claim 1 is that the struts that interconnect the linkages inhibit foreshortening of the stent. Accordingly, the provision in Orth of a notch in a strut that will permit such foreshortening provides no solution to the problem presented in the present application and provides no motivation to Israel to incorporate such a feature in a stent in which foreshortening is to be avoided.

Secondly, in the Israel reference, in the discussion of prior art at column 1, lines 42 through 44, there is criticism of prior art stents that provide a twisting motion that is harmful to the blood vessel in which the stent is inserted. Similar considerations would apply to the provision of a radially expanding barb as shown in the Orth reference which would engage the sidewall of the blood vessel and probably cause damage to it. Again therefore, given the concern of Israel to the potential damage to a blood vessel, there would be no motivation to utilize the feature shown in Orth which appears to encourage such damage.

Most importantly, it should be noted that the Orth reference does not teach the provision of notches in the linkage to promote the predictable bending and radial expansion of the stent. The Orth reference shows the notch in the struts that are connected by the linkages but does not disclose the use of such notches in the linkage themselves. Claim 1 as presently on file requires the linkages to contain the zones of relative weakness to define the hinge points and this feature is clearly lacking in the Orth reference. Indeed, the teachings of Orth, rather than rendering such

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a provision obvious in the Israel reference do in fact teach away from such a provision in that notches are provided in the struts but not in the linkages. Had Orth recognized the benefit of such defined hinge points in his linkage then he would have utilized them in the linkages shown in the patent.

It is believed therefore that there is no teaching in Orth of the use of zones of relative weakness in the linkage to provide defined hinge points and nothing in Orth teaches the efficacy of providing such features in the linkages. The structure shown in Orth teaches away from the objectives of the invention claimed, namely to avoid foreshortening, which is specified in claim 1 and also is an objective of the Israel reference as described at column 1, line 52 through 55. Moreover, the mechanism described in Orth has the same deficiencies as the prior art mentioned in Israel and clearly is not a structure that would be readily adopted in the Israel device.

Accordingly, it is believed that claim 1 and claim 2 clearly and patentably define over the combination of references applied by the Examiner and as such, are in condition for allowance.

A Terminal Disclaimer is submitted herewith to overcome the provisional double patenting rejection.

Further action to allowance is respectfully requested.

Respectfully submitted,



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